

REMARKS

Claims 1-13 were rejected under 35 U.S.C. 112 , second paragraph, on the grounds that the claims are indefinite with regards to the carbon:nitrogen weight ratio. It is respectfully submitted that this rejection should be withdrawn.

The Office Action states that "weight ratio" may refer to the weight of the components added to the medium or the molecular weight of the components. In response, applicant submits that it is very clear from the application that the weight ratio is the weight of carbon relative to the weight of nitrogen. For example, page 8 states that glucose and nitrate are respectively used as the carbon and nitrogen sources in the cultures and C:N ratios were investigated. Glucose ($C_6H_{12}O_6$) has a molecular weight of 180 but nothing in the application is based on that value or some multiple of that value (i.e., moles). Instead, values are recited in g/l. If the ratio is based on the molecular weight of the components (180 glucose and 85 for sodium nitrate), then recitation of the amount of these components in grams in per liter would be irrelevant. Page 8 of the application does not indicate, as the Office Action appears to assume, that the Fig. 3 ratios was achieved using 0.75 g/l of sodium nitrate; it indicates that the C weight was held constant and the N weight varied.

In light of the foregoing considerations, it is respectfully submitted that the rejection under 35 U.S.C. 112 can be withdrawn.

Claims 1, 2, 4-6, 8-10, 14 and 16 were rejected under 35 U.S.C. § 102 and all claims under 35 U.S.C. § 103 over Farrow (US '502).

The Examiner has pointed out that the applicant was arguing based on the assumption that a step in which the astaxanthin is recovered was present but in fact it was not, and this absence caused claims to be anticipated by the reference. The independent claims have been amended to explicitly recite the recovery step and, as the Examiner has acknowledged, this eliminates the novelty rejection. With regard to the obviousness rejection, Farrow teaches a method of producing lutein and does not teach or suggest a method of making astaxanthin, and therefore cannot suggest a method in which astaxanthin is recovered.

In view of the above amendment, applicant believes the pending application is in condition for allowance and respectfully requests the issuance of a Notice of Allowance.

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Respectfully submitted,

By 

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